

CLAIMS

We claim:

1. A method of monitoring a condition of an elevator load bearing member that has a plurality of spaced, electrically conductive tension members, comprising the
5 steps of:
 applying a selected electric signal comprising a plurality of pulses and having a duty ratio that is less than about 10% to at least one of the tension members.
2. The method of claim 1, including applying the signal to one of the tension
10 members at a time.
3. The method of claim 1, including coupling at least two non-adjacent tension members in an electrically conductive manner and applying the electric signal to the coupled tension members.
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4. The method of claim 1, including establishing the tension member carrying the signal as a cathode relative to a hoistway where the belt assembly is used.
5. The method of claim 4, including controlling a potential of the electric signal
20 such that the potential is negative compared to a ground potential of the hoistway.
6. The method of claim 1, wherein the electric signal is applied only to non-adjacent tension members at a time.
- 25 7. The method of claim 1, including determining a resistance of the tension members based upon the applied signal.

8. A device for monitoring a condition of an elevator load bearing member comprising:

5 a controller that selectively applies an electric signal that comprises a plurality of pulses and has a duty ratio that is less than about 10% to at least one tension member.

9. The device of claim 8, including a connector that establishes an electrically conductive connection between the controller and the tension member.

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10. The device of claim 9, wherein the connector includes at least one coupling that couples at least two non-adjacent tension members together.

11. The device of claim 8, wherein the controller applies the electric signal such
15 that the tension member carrying the signal is a cathode relative to a hoistway where the belt assembly is used.

12. The device of claim 11, wherein the electric signal has a polarity that is negative compared to a ground potential of the hoistway.

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13. The device of claim 8, wherein the electric signal is applied only to non-adjacent tension members at a time.

14. The device of claim 8, wherein the controller determines a resistance of the
25 tension members and determines a condition of the load bearing member based upon the determined resistance.

15. The device of claim 8, wherein the controller applies the signal to an entire plurality of tension members simultaneously.

16. An elevator load bearing member assembly, comprising:
a plurality of electrically conductive tension members;
a nonconductive jacket generally surrounding the tension members; and
5 a controller that selectively applies an electric signal comprising a plurality of
pulses and a duty ratio that is less than about 10% to at least one of the tension
members.
17. The assembly of claim 16, including a connector that establishes an
10 electrically conductive connection between the controller and the tension members.
18. The assembly of claim 17, wherein the connector includes at least one
coupling that couples at least two non-adjacent tension members together.
- 15 19. The assembly of claim 16, wherein the electric signal has a polarity that is
negative compared to a ground potential of a hoistway where the assembly is used.
20. The assembly of claim 16, wherein the duty cycle is less than about 1%.